Witness: **Michael T. Smith**
Request from: **Department of Telecommunications and Energy**

Question:
Regarding customer notice and customer service guarantees, please describe the following:

a) the process that would be required (1) to ensure accurate notification of planned interruptions to customers on the affected circuit, and (2) to accurately track and provide a customer credit to all affected customers of record; and

b) any proposed new process to ensure accurate appointment notification, rescheduling appointment, and credit for service appointment service guarantee.

Response:
a) As required in D.T.E. 99-84, WMECO notifies affected customers of planned outages. Our experience with these planned outages indicates that the overwhelming majority of WMECO's affected customers are properly notified.

WMECO identifies the customers to be affected by a planned outage through our Geographic Information System (GIS) and Outage Management System (OMS) systems. We identify the device where the outage will commence (be opened) and use these systems to identify which customers are served from this device. WMECO then checks the list of customers served against the customers shown on street directories of the affected streets. Even with these efforts, there is a possibility of data inaccuracies in our systems and we may miss customers who should be notified of a planned outage.

WMECO becomes aware that a customer has not been notified of a planned outage when that customer contacts WMECO to report a no-lights condition. Upon receiving this call, the customer service representative enters the data and an outage is created in our OMS. Then, the System Operations Center evaluates the reported outage and discovers that the outage was part of the planned outage, reporting the same back to the customer service representative. At this juncture a customer will be given the service guarantee payment of $25 as called for in our service quality plan. These credits are tracked manually.

WMECO is not aware of a system that accurately notifies customers 100 percent of the time that is not prohibitively expensive. Currently, WMECO corrects customer mis-codings in our GIS and OMS systems when they are identified during the course of normal business hours and during the evaluation and restoration of unplanned outages. It is important to note that even if a customer is mis-coded, this does not affect WMECO's response to the customer's trouble or outage call. WMECO retains the ability to identify an outage and, through manual analysis, determine its location. Once this is completed, the customer's correct coding information is entered into the GIS and OMS systems. Therefore, the systems' accuracy is always improving as is WMECO's ability to accurately predict and notify those customers who will be affected by a planned outage.

b) WMECO began capturing Service Appointment Data on January 1, 2002 with the implementation of the Field Activity Scheduling and Tracking (FAST) System – now called FieldNet – which tracks all Meter and Service (M&S) related work requests. WMECO has used FieldNet to gather and report on appointments for 2002, 2003, 2004.

Over that period, the process of scheduling evolved to place greater emphasis on work activities requiring appointments. For example, a recent enhancement to the M&S handheld unit generates an alarm to remind the mechanic that an appointment time is near, and the work scheduling screen on the Field Net system has been enhanced to highlight work activities requiring appointments. Future enhancements include the introduction of route optimization software which will improve the efficiency of the work scheduling process including scheduling appointments.

Service appointments are scheduled for a mutually agreeable time at the time when the customer initially requests the work. Should it become necessary to reschedule an appointment, the customer is contacted and another mutually agreeable time is established.

A review process has been established to ensure that a customer due a credit for a missed appointment receives their credit. Each month a report is generated that lists each appointment that was not completed as arranged. The M&S work order for each missed appointment is reviewed to determine the reason the appointment was missed and if it was necessary for the customer to be present at the site. If it was necessary for the customer to be present and the appointment was missed a $25 credit is applied to the customer's account. The customer is called and informed that a $25 credit is being applied to their account due to a missed appointment. Adjustments to customer accounts are entered into a database where they can be tracked and reviewed monthly.

Witness: **Michael T. Smith**
Request from: **Department of Telecommunications and Energy**

Question:
Regarding standardization of service quality benchmarks, please identify those service quality measures that could be standardized on a state-wide basis. Explain.

Response:
As WMECO stated in its March 1, 2005 comments in this proceeding (pages 6-7), the differences in definitions, data collection methods and quality, geography, and distribution system design and configuration undermines the effectiveness of benchmarking service quality performance across investor-owned utilities. (It is assumed the Department in asking about state-wide standardization does not mean to include the dozens of municipal electric companies in the Commonwealth, an inclusion which presumably would lead to considerable additional difficulties.) For a number of these reasons, it is particularly inadvisable to create generic benchmarks for reliability measures. Therefore, it is preferable to maintain a system of company-specific benchmarks for service performance.

Witness: **Michael T. Smith**
Request from: **Department of Telecommunications and Energy**

Question:
Please refer to the existing Service Quality Guidelines, Attachment 1, at 15-16, where the electric distribution companies are required to report outage information.

a) Comment on whether the required outage information in the Service Quality Guidelines is adequate and correlates to the outage information that local electric distribution companies maintain and use for calculating service quality calculation, including system average interruption duration index ("SAIDI"), system average interruption duration index ("SAIFI"), customer average interruption frequency index, and momentary average interruption frequency;

b) If the required outage information is not considered adequate, please provide a list of additional outage information that would be necessary to correlate to the outage information used in the service quality calculation.

Response:
a) In its Service Quality Guidelines, WMECO has provided the data requested by the Department. However, the outage information in the Service Quality Guidelines does not correlate exactly with the information that WMECO uses to calculate our SAIDI and SAIFI metrics. (WMECO does not have the ability to calculate MAIFI at this time so MAIFI is not addressed in this response.) The main difference between the outage information provided pursuant to the Service Quality Guidelines, Attachment 1, at 15-16, and the outage data used to calculate SAIDI and SAIFI is the impact of partial restoration steps and calculations. Large outages typically are restored in steps to minimize the scope of the original event. This action reduces the outage to the least number of customers possible. Most electric companies, including WMECO, break down the restoration steps into smaller pieces to calculate the specific restoration times and customer counts for each respective step. This accurately measures the customer's experience. However, this operational action is not adequately represented in the required outage reporting in the Service Quality Guidelines, Attachment 1, at 15 -16. The partial restoration steps are reported as separate events in the Outage Reporting Protocol (ORP), yet are really part of one larger event. Calculating SAIFI from ORP data will result in a higher SAIFI than the SAIFI that WMECO reports annually for its SQI. In addition, there may be minor differences in SAIDI from ORP data to WMECO's annual SAIDI data, due to minor edits in customer counts or duration from information discovered after the 10 day edit window for analyzed data. WMECO still files these edits, but they may not correlate back to the original event each and every time.

b) In order to be consistent with WMECO's SAIDI and SAIFI service quality calculations, the Department would have to roll partial restoration steps reported up to the precipitating event, also reported in the Outage Reporting Protocol ("ORP"). In addition, WMECO reports all outages, including Department-excludable events and step restorations, in the Outage Reporting Protocol (ORP). The analyzed outage data reported in the ORP is taken from our OMS, which is the same source WMECO uses to calculate its reliability indices for the Service Quality Guidelines. However, for the ORP and WMECO's Service Quality Guidelines to be consistent, one would have to: (1) remove all of the Department-defined excludable events from the ORP data; and (2) use "A" (analyzed) data only from the ORP. The "I" (initial) data reported in the ORP is notification data only and is subject to frequent change. Finally, it should be noted that WMECO has experienced data errors and repeat line items in the ORP data that could lead to some differences of the SAIDI and SAIFI in the Service Quality Guidelines compared with the calculation in the ORP. These infrequent instances have been resolved on a case by case basis as they are identified.

Witness: **Michael T. Smith**
Request from: **Department of Telecommunications and Energy**

Question:
Regarding the proposed IEEE Standard 1366-2003, please explain:

a) its level of conformance to the level of minimum performance required under the existing Service Quality Guidelines, i.e., performance level should not be below those levels that existed in 1997 or the existing SAIDI and SAIFI benchmarks;

b) whether this proposed IEEE standard meets the statutory requirement of minimum performance measurements; and

c) whether this standard provides an incentive for local electric distribution companies to avoid minimizing interruption durations once the threshold hits a low point and window for the excludable events increase.

Response:
a) The Institute of Electrical and Electronics Engineers, Inc. ("IEEE") Standard 1366-2003 represents state-of-the-art thinking on how to categorize and report reliability data. The IEEE, through its Working Group on System Design, spent considerable time and effort analyzing electric power distribution reliability indices in an effort to address the inconsistent definitions that existed under the outdated IEEE 1998 standard. As described below, WMECO strongly supports the IEEE Standard 1366-2003 because it provides the best framework and the best possible way to measure baseline reliability while removing the affects of variabilities, such as weather. Employing the best framework is the key in WMECO's opinion, not the results that a utility may show under IEEE Standard 1366-2003 in any one particular year. In the final analysis the best standard will lead to the most meaningful, consistent measure of reliability.

IEEE 1366-2003 will result in more accurate representation of the reliability of service provided to a customer than the current Department methodology. The current methodology allows for a number of exclusions, including but not limited to: (1) outages on services; (2) transformer outages affecting secondaries; (3) outages from customer-owned equipment; (4) outage from non-owned transmission systems; and (5) outages during "an excludable major event (i.e., outages affecting more than 15% of customers, or a state of emergency declared by the Governor). With the exception of a Major Event Day (i.e., a day where the SAIDI value exceeds the reclassification threshold of "log normal" daily SAIDI), IEEE 1366-2003 includes all outages that customers experience. Therefore, with the exception of Major Event Day, the new IEEE standard more accurately represents the customer's outage experience, which would be equal to or higher than the minimum performance required under the Service Quality Guidelines.

WMECO recommends that rather than compare the two methodologies against the past performance levels in the SQI, it is preferable simply to recalculate and restate the electric companies performance level and benchmarks in accordance with the IEEE 1366-2003 standard. This will provide an accurate comparison between WMECO's current performance levels and our performance levels that existed in 1997.

In sum, the Department should adopt IEEE 1366-2003 as a much-needed change. The Department has the authority to monitor the results of the new standard to ensure that no degradation of reliability results.

b) The relevant statute, G.L. c. 164, §1F, does not specify the performance standards to be applied to electric companies. Nor does it state that a performance measure should be established for SAIDI and SAIFI. Within the context of the overall purpose of service quality plans (the prevention of deterioration of the service quality customers are entitled to receive (D.T.E. 99-84 (August 17, 2000), Section IV.C)), the Department has determined that SAIDI and SAIFI are appropriate service quality measures. With that statutory and regulatory background, it strains credulity even to suggest that the IEEE Standard 1366-2003 is suspect under Section IF. The IEEE, a national standards-making body, has devoted considerable resources through its IEEE Working Group on System Design to the development of the 1366-2003 standard. The standard has also been approved by ANSI, the American National Standards Institute. Moreover, WMECO understands the IEEE 1366-2003 standard has been adopted or is under active consideration for adoption in a number of states. The new IEEE standard fully meets statutory requirements and, in fact, more fully meets the spirit of the statute than the current framework.

c) By definition, the threshold to trigger a Major Event Day ("Tmed") is calculated from the past year's SAIDI performance. This calculation identifies the daily SAIDI an electric company must exceed to reclassify, not exclude, the SAIDI experience of that day. Once the threshold is exceeded, a Tmed is declared. The operating history of that day is then reclassified and tracked to be reported on separately to the appropriate regulatory agency. The incentive for an electric company to minimize interruption durations once an excludable event or major event day is triggered are:

- Performance that leads to a lower threshold for a Tmed will most certainly cause a significant reduction in reliability performance for that electric company. This will likely trigger service quality penalties thereby out weighing any benefits of a lower Tmed.
- Each Tmed is not excluded; it is reclassified and reported on separately by each event to the regulatory commission. Therefore, the electric company will be held accountable for its performance during the major event day, not just exclude the resultant data for that event.
- If an electric company truly wanted to manipulate an outage to create an excludable event or major event day, it could do so under either the IEEE 1366-2003 or current definition. The difference between allowing an outage to continue to accrue more SAIDI to drive the Tmed versus increasing customers affected by feeder breaker operation involves the same risk and level of integrity. An electric company is more incented to minimize outage durations under IEEE 1366-2003 standard because the Tmed is based on a larger sample (annually) than an arbituary percentage of customers or the declaration of a state of emergency.
- Most importantly, an electric company must respond quickly and effectively to maintain a high level of customer satisfaction, another service quality indice subject to penalties.

Clearly, there are more incentives to an electric company to provide excellent service than reduce service levels to achieve a lower Tmed. It has been WMECO's experience under the current Department definition that we have incurred excludable events under a state of emergency (large snow storms) with no or few customers affected, yet we have had large wind storms requiring mutual aid across our entire service territory without any regulatory reclassification or exclusion. There is no incentive to delay restoration to trigger a major event day just as there is no incentive to achieve a percentage of customers out of service to trigger an excludable event.

Witness: **Michael T. Smith**
Request from: **Department of Telecommunications and Energy**

Question:
Under the existing Service Quality Guidelines, each electric distribution company reports line losses. For example, MECo reports line loss in terms of energy losses for its entire system on a monthly basis. Please provide peak megawatt ("MW") loss separately at each voltage level, such as 345 kV to 120/240 kV, and calculate as a percentage of your annual system peak. Also, calculate total system peak MW loss as a percentage of system peak. In addition, please provide the method used to calculate these losses.

Response:
WMECO does not directly measure or quantify line losses by voltage level. Average distribution line losses are calculated as the difference between MWh Requirements and MWh Sales. Requirement values includes total energy delivered to the WMECO system for WMECO retail customer use, line losses, theft and unaccounted for energy. These losses, which are expressed as both a MWh value and as a percentage of MWh Requirements as measured at the NEPOOL Pool Transmission Facilities (PTF) boundary, were 264,808 MWh, or 6.18% of the Requirements for calendar year 2004.

This loss value represents the average annual losses below the NEPOOL PTF. The actual losses vary from hour to hour including the hour of system peak. The WMECO requirements at the hour of the WMECO system peak was 752 MWs. Assuming an average WMECO loss factor of 6.18% at this hour would result in an estimate of 46 MWs of losses below the PTF at the hour of WMECO's peak.

Losses on the NEPOOL PTF are not available. The Independent System Operator of New England (ISO-NE) no longer quantifies and makes available the average PTF losses on a MWh basis. Upon the implementation of the Standard Market Design (SMD) these PTF losses are monetized and are embedded within the published Locational Marginal Prices (LMPs).

Witness: **Michael T. Smith**
Request from: **Department of Telecommunications and Energy**

Question:
Refer to the Initial Comments of Massachusetts Electric Company and Nantucket Electric Company ("MECo") at 15-16, Att. 1, where MECo discusses discrepancies between indices collected using paper-based outage data collection systems verses mature/automated outage data collection and management systems. Please indicate:
a) whether this type of discrepancy applies to your company's outage data collection and management systems; and

b) whether the existing fixed SAIDI and SAIFI benchmarks are a true representation of your company's historical performance, and whether these existing benchmarks should be revised. If so, also propose new benchmarks.

Response:
a) WMECO has had an automated, electronic outage management system (OMS) since 1987, upgraded in 1994, and now has a new OMS, in place since April 2004. Therefore, WMECO has not had experience with a non-automated, paper OMS in many years. Any change to an electric company's OMS will have some impact on their reported reliability, especially for the year of installation. After that time, the reporting becomes stable and more accurate due to the improved level of detail in the new OMS. The affect of this refined level of detail will carry through into the future. For example, WMECO's past OMS tracked outages to the device level. Our new OMS tracks outages one level down to the transformer level. This has caused some increase in SAIFI as more events are being tracked to the lower level instead of accumulated at the higher device level. Therefore, the transition to a new OMS does impact some of the reliability indices; however, this change is not significant due to our transition from one automated system to another automated system.

b) WMECO believes that its existing benchmark data for SAIDI and SAIFI are accurate and true representations of our historical performance. WMECO does not believe it is necessary to recalculate our benchmarks for SAIDI and SAIFI based on our transition to the new OMS. However, WMECO does believe it would be necessary to recalculate our SAIDI and SAIFI benchmarks should either a new SQI performance cycle be required or the IEEE-1366-2003 standard be adopted.